

REMARKS

This Amendment responds to the non-final Office Action mailed on May 1, 2009.

Claims 1, 3, 5-13, 19, 34-42, and 54-58 are pending. Claims 9-13 and 36-42 are withdrawn. Claims 1, 3, 6 and 10 have been amended. Claims 54-58 are new. In view of the following remarks, as well as the preceding amendments, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Rejection under 35 U.S.C. § 102

Claims 1, 3, 7, 8, and 35 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,933,222 to Dubin et al. (hereinafter *Dubin*). Of the rejected claims, claim 1 is the sole independent claim. Applicants respectfully traverse the rejection.

Claim 1, as amended, recites “said exterior vertical sidewall of said second gate electrode separated from said vertical sidewall of said first gate electrode by a space”, “a layer composed of a dielectric material and disposed in said space” and “said at least one first semiconducting carbon nanotube is positioned in said dielectric material within said space”. *Dubin* fails to disclose the claimed structural arrangement.

On page 3 of the Office Action, the Examiner identifies a dielectric filled space 216 in *Dubin* and contends that, in addition to being located between the sidewalls of the gate electrodes of the different transistors, the nanotube 250a is located in this dielectric filled space 216. As an aid to facilitate discussion, Applicants have reproduced Figure 5E of *Dubin* with annotations as an attachment to this paper.

In Figure 5E of *Dubin*, two transistors are depicted. Each of these transistors includes a gate electrode 202 and one of the nanotubes 250a, 250b, which *Dubin* collectively describes as nanotubes 250. *Dubin* discloses that the “gate electrodes 202 are provided on the second dielectric layer 214, the axis of the bore of the ring gate electrode centered upon the drain (source) electrode 222” and that “FIG. 5D is a cross-sectional view of p-type (n-type) carbon nanotubes 250 grown/deposited from the catalyst material 240 in vertical alignment with the inner surface of the bores 203 and extending beyond the ring gate electrodes 202”. See column 6, lines 25-44.

Each gate electrode 202 includes a round interior sidewall and a round exterior sidewall. The nanotube 250a, as well as the drain (source) electrode 222 and catalyst material 240 defining the contact with one end of the nanotube 250a, are positioned in the axial bore radially inside the interior sidewall of the gate electrode 202. In contrast to the Examiners construction and as apparent in Figure 5E of *Dubin* in view of Applicants' preceding construction, nanotube 250a and the drain (source) electrode 222 and catalyst material 240 defining the contact with one end of the nanotube 250a, are not positioned in the space between the exterior sidewall of this gate electrode 202 and the exterior sidewall of the other gate electrode 202 associated with nanotube 250b.

In order for a reference to anticipate the invention in a claim, the reference must teach each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Because of the deficiencies in the disclosure of *Dubin* identified above in comparison with claim 1, *Dubin* fails to anticipate independent claim 1. For at least this reason, Applicants respectfully request that this rejection be withdrawn.

Because claims 3, 7, 8, and 35 depend from independent claim 1, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, dependent claims 3, 7, 8, and 35 each recite a unique combination of elements not disclosed or suggested by *Dubin*.

Rejections Under 35 U.S.C. § 103

Claim 19 over Dubin

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dubin*. Because claim 19 depends from independent claim 1, Applicants submit that this dependent claim is patentable for at least the same reasons. Furthermore, this dependent claim recites a unique combination of elements not disclosed or suggested by *Dubin*.

Claims 5, 6, and 34 over Dubin and Farnworth

Claims 5, 6, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dubin* in view of Farnworth et al. (U.S. Patent No. 6,515,325), hereinafter *Farnworth*.

Farnworth fails to remedy the deficiencies of *Dubin*. Because claims 5, 6, and 34 depend from independent claim 1, Applicants submit that these dependent claims are patentable for at least the same reasons. Furthermore, these dependent claims recite unique combinations of elements not disclosed or suggested by the combination of *Dubin* and *Farnworth*.

New Claims

Claims 54-58 have been submitted as new claims that recite unique combinations of elements not disclosed or suggested by the art of record.

Conclusion

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing remarks and amendments, this application is submitted to be in complete condition for allowance. Accordingly, a timely notice of allowance to this effect is earnestly solicited. In the event that any issues remain outstanding, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe any fees are due in connection with filing this communication. If, however, any fees are necessary as a result of this communication, the Commissioner is hereby authorized to charge any under-payment or fees associated with this communication or credit any over-payment to Deposit Account No. 23-3000.

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Date

Respectfully submitted,
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